

What is Claimed is:

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1. A clearance seal assembly comprising:
 a stationary member defining a first side, a second side and an opening connecting the first and second side;
 a moving member moveably disposed through the opening; and
 a sealing member circumferentially disposed between the stationary member and the moving member, the sealing member having a fluid-tight relationship with the stationary member, wherein the sealing member and the moving member define a continuous and uniform gap, having a size that allows the fluid to fill the gap but prevents the fluid from flowing through the gap from the first side to the second side of the opening under an operating pressure differential between the first and the second side.
2. The clearance seal assembly of claim 1, wherein the sealing member and the moving member are made of ceramic materials.
3. The clearance seal assembly of claim 1, wherein the gap is defined by an internal wall of the sealing member and an outer wall of the moving member, and cross-sections of the internal and the outer walls have substantially circular shapes.
4. The clearance seal assembly of claim 1, wherein the sealing member is integrally formed with the stationary member.
5. The clearance seal assembly of claim 1, wherein the sealing member is a separate element from the stationary member, the seal assembly further comprising a static seal disposed between the stationery and the sealing member to maintain the fluid-tight relationship therebetween.
6. The clearance seal assembly of claim 5, wherein the static seal is an annular elastomeric seal removably mounted on the sealing member.
7. A pump comprising:
 a housing structure having an internal wall defining a suction chamber for containing a fluid;
 a piston movably disposed within the chamber; and
 a sealing member circumferentially disposed between the housing structure and the piston, the sealing member having a fluid-tight relationship with the housing structure, and the sealing member and the piston defining a continuous and uniform gap, wherein the gap has a size that allows the fluid to fill the gap but prevents the
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fluid from flowing through the gap from the suction chamber to an outside of the chamber under an operating fluid pressure.

8. The pump of claim 7, wherein the sealing member and the piston are made of ceramic materials.
9. The pump of claim 7, wherein the housing structure comprises:
a casing defining the suction chamber for accommodating the piston, and
a bearing circumferentially disposed between the piston and the casing.
10. The pump of claim 9, further comprising a static seal disposed between the casing and the sealing member to maintain a fluid-tight relationship therebetween.
11. The pump of claim 10, wherein the static seal is an annular elastomeric seal removably mounted on the sealing member.